SARPAM programme, including a regional procurement cooperation intervention of ARVs, is both a cost beneficial and cost effective way of improving access to essential medicines in SADC. Specifically, this will have a significant impact on the access to healthcare of HIV AIDS patients where antiretroviral drug costs will be significantly reduced.

PIN42

METHODOLOGICAL DECISIONS IN ECONOMIC EVALUATIONS OF CHILDHOOD INFLUENZA VACCINATION: FINDINGS FROM A LITERATURE REVIEW

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OBJECTIVES: Influenza vaccination programs targeted at children have gained increasing attention in recent years. In the US, recommendations for influenza vaccination have expanded over the last decade to include all children aged 6 months to 18 years. However, in most other developed countries childhood influenza vaccination has been restricted to targeted programs for children at risk of influenza complications. **METHODS:** A literature search was conducted for English-language economic evaluations of influenza vaccination in those aged less than 18 years. Studies evaluating vaccination options exclusively targeted at specific risk groups were excluded. The literature search identified 20 relevant studies which were reviewed. **RESULTS:** The studies differed widely in terms of the costs and benefits that were included. All but one of the studies were conducted from a societal perspective. The majority of the studies included the value of lost productivity due to caregivers missing work to care for sick children. However, other forms of lost productivity were considered by some studies, including those resulting from being vaccinated, school absenteeism, premature death, and illness in caregivers. Only a small minority of studies also measured benefits in terms of non-monetised utilities such as quality-adjusted life years. Several evaluations, particularly those directly targeted at healthy children, did not include serious influenza complications. Only one of the reviewed studies used a dynamic transmission model able to fully incorporate the indirect herd protection to the wider population. **CONCLUSIONS:** The conclusions of the studies were generally favourable towards vaccination. Methodological decisions in terms of what costs and benefits to include appeared influential. Many studies applied a wider perspective (i.e. including productivity losses) than the reference case for economic evaluations used in many countries.

PIN43

THE TOTAL COST OF HIV PATIENTS TREATED WITH ARV THERAPY: REAL WORLD EVIDENCE FROM THREE ITALIAN ADMINISTRATIVE DATABASES

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OBJECTIVES: To calculate the cost of Human Immunodeficiency Virus (HIV) patients treated with Anti-Retroviral therapy (ARV) including medications, hospitalizations, tests, and specialist visits over a 12 months follow-up period, 3 Italian Local Health Units databases were analysed. **METHODS:** All records (patients ≥18 years) between January 1, 2008 and December 31, 2009 associated with nucleoside analogue reverse-transcriptase inhibitor (NRTI), non-nucleoside analogue reverse-transcriptase inhibitor (NNRTI), protease inhibitor (PI), or other drugs in ATC J05A group, were included. Data and costs were collected for medications, hospitalizations, diagnostic tests, and specialist visits for the 12 months after the first ARV prescription (follow-up). Records of treatment for the 24 month prior to the first ARV prescription were classified as naïve or experienced. Costs-per-unit for resource use were collected from DRGs, National Tariffs and Drugs Formulary. **RESULTS:** A total of 779 records were analyzed 515 male (46.4±9.7years) and 264 female (42.0±9.2years). Records were classified as naïve (12,7%) and experienced (87,3%). The most prescribed regimens were Efavirenz+Tenofovir/Emtricitabine (TDF/FTC) (22.1%), Atazanavir±ritonavir(r)+ TDF/FTC (17.2%), and Lopinavir/r+TDF/FTC (11.2%). No switching of therapy during the follow-up was found in 78.2% of the records. Amid non-switcher records, the annual average total cost (medications, hospitalizations, tests, and specialist visits) was €9,103.82±5,302.11, including €7,099.70 for ARV therapy (77%), €631.65 for HIV-related hospitalizations (7%), and €551.49 for HIV-related diagnostic tests/specialist visits (6%). Total costs for Efavirenz+TDF/FTC, Atazanavir±r+TDF/FTC and Lopinavir/r+TDF/FTC regimens amounted to 7,637.40€, 11,257.00€ and 9,426.94€ respectively, with higher total costs being associated with Atazanavir±r+TDF/FTC. **CONCLUSIONS:** In this administrative databases analysis, the annual total average cost of HIV patients was significantly influenced by specific ARV medications, suggesting that total cost of therapies could differ significantly from drug acquisition cost of a single drug. A payer's perspective should include all direct costs and not only drug acquisition costs.

PIN44

COST-EFFECTIVENESS OF QUADRIVALENT HPV VACCINATION IN GERMANY USING A DYNAMIC TRANSMISSION MODEL

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OBJECTIVES: Several health-economics models have evaluated cost-effectiveness of HPV vaccination in Germany. These static models do not consider the dynamics of infection or the herd immunity effect of vaccination on vaccinees' contacts. The objective of this study is to assess the epidemiological and economic impact of a prophylactic quadrivalent human papillomavirus vaccine (HPV6/11/16/18) in Germany with the help of a dynamic transmission model. **METHODS:** We adapted a previously published HPV6/11/16/18 dynamic transmission model to the German context. The model was populated with German-specific data where available and was manually calibrated to fit German epidemiological data. The base case analysis evaluated the current HPV vaccination programme for girls aged 12-17 years (cumulative coverage rate at 20 years of 45% and 55% for the 12-14 and 15-17 respectively), alongside current cervical cancer screening, versus screening only. **RESULTS:** At a steady state, the model projected that the vaccination strategy could reduce the number of HPV 6/11/16/18-related cervical cancer, CIN2/3, CIN1 and genital wart cases among women by 64.6%, 64.3%, 58.9% and 69.9% respectively. In addition, girls' vaccination could indirectly lead to a decrease of 48.2% of genital warts cases in males. The incremental cost-effectiveness ratio (ICER) of the current vaccination programme was estimated at €5,525 per QALY and €10,205 per LYG. Excluding vaccine's protection against HPV6/11 would increase the ICER to €10,296/QALY. An increase in girls' vaccination coverage rates would lead to a substantial disease reduction. **CONCLUSIONS:** In Germany, the current quadrivalent HPV vaccination programme can be regarded as a cost-effective strategy. An increase in vaccination coverage rate could lead to a more effective programme. Further public health benefits could be expected on other HPV-related diseases such as vulvar, vaginal and anal precancerous lesions on which the quadrivalent vaccine has demonstrated high efficacy.

PIN46

COST-EFFECTIVENESS AND PUBLIC HEALTH IMPACT OF PNEUMOCOCCAL VACCINATION IN MALAYSIA

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OBJECTIVES: There are currently two pneumococcal conjugated vaccines in Malaysia. Pneumococcal vaccination is not currently part of the national immunization program (NIP). We studied the cost-effectiveness of population-wide pneumococcal vaccination in Malaysian children with the 13-valent pneumococcal conjugate vaccine (PCV13) versus the 10-valent pneumococcal conjugate vaccine (PCV10). **METHODS:** A 10-year Markov model was used to analyze the population level public health and economic impact of infant vaccination. Costs were considered from the payer's perspective. A 3% discount rate was applied to costs and outcomes. Local and regional epidemiology data were used when possible. PCV13 and PCV10 effectiveness was extrapolated from PCV7 data, taking into consideration the local serotype distribution. Medical and vaccine costs were obtained from local sources while lifetime medical costs of disability were estimated from US data. The analysis assumes a 3-dose vaccination series. Sensitivity analyses were performed to assess the robustness of the results. **RESULTS:** More cases of invasive pneumococcal disease (IPD) (8,671 cases), hospitalized pneumonia (346,716 cases), non-hospitalized pneumonia (897,729 cases) and acute otitis media (72,220 cases) are estimated to be avoided following vaccination with PCV13 vs PCV10. 1,952 IPD related deaths and 16,114 deaths from hospitalized pneumonia would additionally be prevented. Compared to PCV10, PCV13 saved an additional 489,916 life years and 447,681 QALYs. This resulted in a cost per life-year saved of RM18,011 and a cost per QALY gained of RM 19,710 for PCV13 vs PCV10. **CONCLUSIONS:** This analysis supports the cost-effectiveness of PCV13 vaccination compared with PCV10 in a potential NIP in Malaysia.

PIN47

COST-EFFECTIVENESS OF TELBIVUDINE IN FIRST LINE TREATMENT OF HBEAG-NEGATIVE PATIENTS WITH CHRONIC HEPATITIS B (CHB) IN THE TURKISH HEALTHCARE SETTING

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OBJECTIVES: The aim of this study is to analyze the cost-effectiveness over 6-year duration of first line telbivudine and lamivudine treatment in HBeAg-negative CHB patients with low viral load at baseline in line with the Turkish reimbursement guideline for oral CHB therapies. **METHODS:** Using a decision analytical model, cost-effectiveness of telbivudine was evaluated versus lamivudine in first-line use for HBeAg-negative patients with baseline serum HBV DNA levels <7 log10 copies/mL in Turkish healthcare setting from national payer's perspective in accordance with the local reimbursement guideline for oral CHB treatments based on roadmap concept. Primary measure of effectiveness was undetectable HBV DNA level by polymerase chain reaction (PCR) assay at model duration, while costs included only cost of oral CHB drugs incurred by the Payer. Probabilities of PCR negativity and resistance rates used in the model are derived from telbivudine's head-to-head study vs lamivudine subgroup analyses outcomes for week 24 and 104; and from respective pivotal clinical studies for second line therapies. **RESULTS:** In the CE model, total oral CHB treatment cost per negative patient treated with lamivudine and telbivudine arm over 6 years was estimated to be 9141€ and 7980€ respectively. Percentage of patients remaining on lamivudine at model duration was 29%, while 67% on telbivudine. The average cost-effectiveness ratio, cost per successfully treated patient at year 6, was calculated as 10,754€ for the lamivudine arm and 8,750€ for the telbivudine arm (difference is 2,004€) and the incremental cost-effectiveness ratio was -18,726€. **CONCLUSIONS:** First line CHB treatment with telbivudine in negative patients has been demonstrated as a dominant cost-effective option than lamivudine in the Turkish health care setting. Although telbivudine has higher reimbursement price, it has been offset by superior efficacy compared to lamivudine in HBeAg-negative patients with baseline serum HBV DNA levels <7 log10 copies/mL and less need for more costly second line treatments.